

TO THE
URBAN DISTRICT COUNCIL
FOR THE
CITY OF DURHAM.

GENTLEMEN,

I beg to submit to you my Annual Report on the Durham Urban District for the year 1909.

The area of the District (exclusive of area covered by water) is 1065 acres.

The number of houses at the commencement of the year was 3230 and the population estimated at 17,200.

During the past year 11 new houses have been erected and occupied, and one has been closed.

The natural increase in the population has been 148, but I have found that this affords no reliable index as to actual increase. The number of new houses occupied during any given year probably is more of a guide, and we may conclude that there has been probably an increase of some 40 or 50 persons. As census results have however usually shown that the population was less than estimated I think it better to disregard this and to calculate the rates on an estimated population of 17,200, the same figure as last year.

BIRTHS.—434 births have been registered during the year :—319 in the St. Oswald Sub-district and 115 in the St. Nicholas Sub-district.

The corresponding figures in the previous year were 449, 315 and 134 respectively.

Of the total births 229 were males and 205 females.

In the St. Nicholas Sub-district 57 were males and 58 females ; whilst in the St. Oswald Sub-district the figures were 172 and 147 respectively.

The Annual Birth Rate is therefore 25·2 per 1000 population, as against 26·0 for the previous year.

The average figure for the past ten years is 27·5.

The Birth Rate for the Administrative County of Durham last year was 35·5 with a mean rate of 35·4 for the past 10 years.

In Table I appended to this Report will be found detailed information as to Births and Rates, together with Infantile Mortality Statistics during the past ten years and details as to the ages and causes of death of infants under the age of 1 year will be found in Table V.

The following Table shows the number of births occurring in each year from 1875 to the present time :—

TABLE OF BIRTHS IN THE YEARS 1875 TO 1909
INCLUSIVE.

1875—534	1880—465
1876—493	1881—413
1877—536	1882—439
1878—508	1883—438
1879—509	1884—413

1885—420	1897—432
1886—406	1898—374
1887—420	1899—398
1888—431	1900—354
1889—388	1901—443
1890—382	1902—391
1891—405	1903—443
1892—432	1904—444
1893—378	1905—405
1894—421	1906—500
1895—479	1907—444
1896—428	1908—449

1909—434

DEATHS.—The total number of deaths (including non-residents) registered as occurring in the District during the year is 355, as against 371 in the previous year, 364 in 1907, 333 in 1906, 370 in 1905, and 334 in 1904.

The number of deaths of non-residents, that is persons not belonging to our District but dying in Public Institutions therein, was 73, as against 68 in the previous year.

On the other hand 4 persons belonging to our District died in Public Institutions outside the Borough.

Total deaths during the year	...	...	355
Deduct Non-residents	...	...	73
			<hr/>
			282
Add Residents dying in outside Institutions			4
			<hr/>
True Mortality	...	...	286
			<hr/> <hr/>

In the previous year the total deaths were 371, deaths of non-residents 68 and of residents outside 3; making a true mortality of 303 for 1908.

The death-rate for 1909 is therefore 16·6 per 1,000; as against 17·7 for 1908; 17·2 for 1907; 16·0 for 1906; 20·8 for 1905; and 17·7 for 1904.

The corresponding figures for the Administrative County are as follows :—

1909	...	15·7	1906	...	17·5
1908	...	17·6	1905	...	18·3
1907	...	17·0	1904	...	17·7
		1903	...	17·9	

AGE DISTRIBUTION.—The distribution as to ages in the deaths is as follows :—

59	deaths	occurred	under	the	age	of	1	year.
26	„	„	between	ages	of	1	and	5.
8	„	„	„	„	5	„	15.	
8	„	„	„	„	15	„	25.	
91	„	„	„	„	25	„	65.	
94	„	„	at	age	of	65	and	upwards.

DEATHS IN PUBLIC INSTITUTIONS :—The following deaths have occurred during the year in Public Institutions within the district :—

Durham County Hospital	.	...	59
Durham Union Workhouse	...	...	46
His Majesty's Prison	...	..	4
Gilesgate Isolation Hospital	...	...	0

Total 109, of whom 73 were persons not belonging to the district.

In Public Institutions outside the district there have died Residents as follows :—

Sherburn Hospital	...	...	2
Durham County Asylum	...	...	2

DEATHS DUE TO ZYMOTIC DISEASES. —Zymotic Diseases (which include Measles, Scarlet Fever, Whooping Cough, Diphtheria, Fevers (Enteric, etc.), and Diarrhœa) were the cause of death in 5 instances, as against 22 in 1908; 17 in 1907; 22 in 1906, and 23 in 1905.

This is the smallest number of deaths from Zymotic diseases of which we have any record, viz., from the year 1884; and this notwithstanding the fact that a population of 2,200 was added to the Borough in November, 1905. The Zymotic death-rate per 1,000 is 0·29; the lowest previous rate being 0·4.

Of the 5 deaths, 3 were due to Measles and 2 to Diarrhœa.

Although the Council may justly claim to have done much to reduce the prevalence of Zymotic disease in general, especially in the case of Scarlet Fever, Enteric and other fevers, still it must be admitted that the past Summer, execrable as it seemed from the ordinary point of view, was distinctly unfavourable to diseases of this class; this remark applying with particular force to Diarrhœa, especially among infants.

The Zymotic death-rate for the Administrative County is 1·61; and the mean rate for the 10 years 1899—1908, 2·27.

Table showing the number of deaths from Zymotic Disease in the Durham Urban District during the years 1884—1909 inclusive :—

YEAR.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Diarrhoea.	Erysipelas.	Total.	Rate.
1884	31	4	2	5	4	4	2	..	10	..	62	4.1
1885	4	12	1	..	1	1	..	..	7	..	26	1.7
1886	..	15	1	..	..	7	..	..	.	1	24	1.6
1887	..	2	1	3	5	3	..	..	7	2	23	1.5
1888	3	1	1	..	..	1	6	0.4
1889	5	3	5	3	..	..	5	..	21	1.4
1890	..	1	3	1	7	1	2	2	5	1	23	1.5
1891	1	4	4	3	..	..	5	2	19	1.2
1892	..	12	3	1	3	2	1	2	3	..	27	1.6
1893	5	3	2	..	..	1	..	3	4	1	19	1.2
1894	..	7	11	1	4	3	..	..	3	..	29	1.9
1895	..	2	4	..	3	3	..	..	2	..	14	0.9
1896	..	13	2	3	4	1	..	1	1	1	26	1.7
1897	1	..	8	2	..	..	8	..	19	1.2
1898	1	1	..	1	..	2	6	..	11	0.72
1899	..	4	..	..	..	1	..	..	4	..	9	0.59
1900	4	..	2	..	..	..	4	..	10	0.85
1901	..	7	2	3	2	1	..	..	15	..	30	2.0
1902	1	..	5	2	..	..	7	..	15	1.0
1903	..	3	1	2	1	..	..	..	13	..	20	1.35
1904	..	7	2	3	4	..	..	..	1	..	17	1.14
1905	..	4	..	..	4	2	..	..	13	..	23	1.53
1906	5	3	..	..	..	14	..	22	1.29
1907	..	9	..	2	..	..	..	..	6	..	17	0.98
1908	..	2	1	4*	4	3	..	..	8	..	22	1.22
1909	..	3	..	..	..	..	..	..	2	..	5	0.29

* Including 1 death from "Croup."

Population of 2,200 added to Borough 9th November, 1905.

The Chief Vital Statistics for the past year in the Administrative County having been supplied by the Medical Officer I am able to show in the following Table how the City rates compare with the County both for the year 1909 and the five previous years.

Table of Chief Vital Statistics for the years 1904—9 inclusive for the Administrative County compared with those for the City.

	Administrative County.							Durham Urban.						
	Annual Rate per 1,000 population.							Annual Rate per 1,000 population.						
	1909.	1908.	1907.	1906.	1905.	1904.	1903.	1909.	1908.	1907.	1906.	1905.	1904.	1903.
Birth-rate ..	35.5	37.0	34.8	35.2	34.4	35.6	35.8	25.2	26.1	25.8	29.4	27.1	29.8	29.9
Death-rate ..	15.7	17.6	17.0	17.5	17.4	18.3	17.7	16.6	17.7	17.2	16.0	20.8	17.7	18.4
Zymotic death-rate ..	1.61	2.70	1.98	2.40	2.37	2.59	2.01	0.29	1.2	0.98	1.29	1.53	1.14	1.35
Infant mortality (per 1,000 births) ..	124	151	136	157	159	162	161	135.9	175.9	137.3	154	192.5	115.4	155.7
Small-pox ..	Nil.	Nil.	Nil.	Nil.	0.002	0.03	0.03	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
Scarlet Fever ..	0.09	0.07	0.06	0.08	0.09	0.16	0.25	Nil.	0.05	Nil.	Nil.	Nil.	0.13	0.06
Diphtheria and Membranous Croup ..	0.17	0.18	0.20	0.20	0.25	0.29	0.29	Nil.	0.15	0.11	0.29	Nil.	0.20	0.13
Fever (Enteric, &c.) ..	0.12	0.18	0.10	0.22	0.20	0.15	0.12	Nil.	0.15	Nil.	Nil.	0.13	Nil.	Nil.
Measles ..	0.37	0.27	0.69	0.16	0.48	0.55	0.32	0.17	0.1	0.52	Nil.	0.26	0.47	0.20
Whooping Cough ..	0.25	0.53	0.32	0.30	0.42	0.43	0.24	Nil.	0.2	Nil.	0.17	0.26	0.26	0.06
Diarrhoea ..	0.59	1.44	0.59	1.41	0.90	0.95	0.73	0.11	0.4	0.35	0.82	0.87	0.07	0.87
Enteritis, &c. ..	Nil.	Nil.	0.14	0.42	0.36	0.38	0.38	0.29	Nil.	0.40	0.41	0.67	1.07	0.20
Phthisis ..	0.91	0.95	0.97	1.09	1.00	1.07	1.09	1.04	0.85	1.22	0.82	1.27	1.64	1.89
Other Tubercular Diseases ..	0.73	0.70	0.80	0.74	0.74	0.92	0.93	1.33	0.5	0.63	0.47	0.87	0.73	0.40
Respiratory Diseases ..	2.38	2.81	3.09	2.62	3.16	2.92	3.03	2.55	3.3	2.84	2.70	3.62	2.42	3.71

INFANT MORTALITY.—59 deaths of Infants under the age of 1 year have been registered as against 79 in the previous year, 61 in 1907, 77 in 1906, and 78 in 1905.

This represents an Infant Mortality rate for the year of 135.9 per 1000 births. With the exception of the year 1907 when the rate was only slightly higher, viz: 137.3, this rate is very much lower than in any year of which we have record. The rate for the year 1908 was 175.9. This diminution of infant mortality for the year must of course give us great satisfaction, but I may as well say at once that undoubtedly the main cause of such a remarkable fall in the figures is the exceptionally cool summer which we experienced, which so greatly lessened the amount of Diarrhœa and other stomach and bowel diseases which are so fatal to very young children. The correctness of this view is I think borne out by the fact that in the Administrative County which had a rate of 151 in 1908 and a mean rate of 159 for the 10 years 1899—1908, the mortality fell to 124 in the past year.

I must not however be taken to infer that the matter of infant mortality is merely a question of weather conditions, temperature, &c., and that we are helpless in the matter.

Any action which tends to improve the condition of houses as to cleanliness, interiors as well as surroundings, which encourages the practice of natural feeding; or, in those cases where natural feeding is impossible or impracticable, enlightens mothers as to suitable methods of artificial feeding, must have a beneficial effect in this matter.

I mentioned in last year's Report that a Voluntary Committee had been formed and a Lady Health Visitor

appointed, and I have no doubt whatever that much good has already resulted from this work.

The summer and autumn were, as I mention elsewhere in the Report, most favourable to infant health, and we must not therefore conclude that the Infantile Mortality has already been permanently lowered to the present rate. That would be more than we have any right to expect.

Diarrhœal diseases caused 9 deaths only (Diarrhœa 1, Enteritis, &c., 3, Gastritis, &c., 5), as against 24 in the previous year; and premature birth, 9, the same figure as before. The chief other variation compared with the previous year was in regard to Atrophy, Debility and Marasmus, which accounted for 4 deaths as against 10 in the year 1908.

NOTIFICATION OF INFECTIOUS DISEASES.—66 cases of infectious diseases have been notified during the year, as against 51 in the previous year. This increase is due to the fact that Scarlet Fever was somewhat more prevalent than in recent years, 34 cases being notified as against 20 in the year 1908. This set back however does not affect the broad fact that we have brought about a great decrease in the amount of infectious disease in general and of Scarlet Fever in particular during the past 15 years. In the years 1895 to 1901 inclusive 358 cases of Scarlet Fever were notified, whilst during the similar period of time, 1902 to 1908, only 135 cases occurred. Similarly during the same periods the total number of notifications have been reduced from 562 to 390.

Moreover we must remember that towards the end of 1905 a population of 2,200 was added to the Borough, and yet we find that whilst the total notifications for the four years ending December, 1905, were 265, in the following four years ending December, 1909, the number had fallen to 191.

The following Table shows the number of cases of each Zymotic disease notified during the years 1895—1909 inclusive :—

	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Small-pox	0	0	0	2	0	0	0	2	28	19	0	0	0	0	0
Typhoid Fever	24	12	8	12	6	4	21	10	5	3	16	5	3	10	6
Puerp'l Fever	1	1	0	3	0	0	0	0	0	0	2	0	0	0	0
Erysipelas	13	13	8	11	13	14	21	19	18	14	12	15	5	8	13
Scarlet Fever	129	35	48	36	10	51	49	32	31	15	16	7	14	20	34
Diphtheria	0	3	2	1	0	4	7	2	4	9	9	16	9	13	13
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	167	64	66	65	29	73	98	65	85	60	55	43	31	51	66

SMALLPOX.—I am glad to be able to report that we have continued free from Smallpox, no case having occurred in the town since 1904. I cannot however but view with misgiving the growing tendency to neglect vaccination in infancy. Sooner or later nemesis will overtake us and we shall have to pay a big price for our legislative laxity in this respect in disease and mortality.

During the year the Council has decided to join in the scheme for a Smallpox Hospital with the Durham Rural and Brandon Urban Authorities, and application has been made to the County Council to include Durham City in their Order for that purpose. I understand that the Brandon Council has appealed against this application, but it is to be hoped that their objection will be withdrawn, as the proposed joint scheme would prove the most satisfactory and least expensive which could be devised for all parties concerned.

DIPHTHERIA.—13 cases of Diphtheria were notified during the year, the same number as in 1908, being 4 in excess of 1907, but 3 less than in 1906.

Four of the cases were removed to the Isolation Hospital, all making a good recovery. The proportion of cases removed to Hospital is much smaller than in the case of Scarlet Fever. There are various reasons

for this. The children as a rule are younger and moreover in the first few days of illness, when the infection is probably greatest, the patients are very frequently quite unfit to be moved, whilst in the case of Scarlet Fever no harm results from removal in ordinary cases where no exceptional symptoms are present. Of course in any case where the medical attendant considers it inadvisable removal is not suggested.

Moreover, it would seem as if either the danger of infection in Diphtheria was over estimated or that the methods of isolation pursued in the home are more effective than one would expect, as it is a fact that the 13 cases of Diphtheria occurred in 12 separate houses at various parts of the city, and that in the case where two occurred in one house both were notified on the same day.

That is to say no second child took the disease in the same house during the year (excluding the case mentioned. I am quite sure a similar statement could not have been made with reference to Scarlet Fever in the pre-isolation days.

The cases occurred in various localities, as follows :—

Western Hill	...	...	2
Sunderland Road	...	...	1
Sidegate	...	...	1
Church Lane	...	...	1
North Bailey	...	...	1
Renny Street	...	...	1
Church Street	...	...	2
New Elvet	...	...	1
Gilesgate	...	...	1
Sadler Street	...	..	1
Claypath	...	...	1

It will be seen that no particular part of the City was especially affected, an odd case occurring in most of the longer streets with the exception of Framwellgate, Crossgate, Old Elvet, and Hallgarth Street.

In 8 of the affected houses the sanitary conditions were either very satisfactory or no defect was found likely to conduce to the disease. In the case of 3 the state of yards and ashpits was unsatisfactory and in 1 the rooms were in a filthy condition. Appropriate action has been taken in the 4 latter cases.

TYPHOID FEVER.—6 cases of Typhoid (Enteric) Fever were notified during the year, as against 10 in the previous year.

The first case occurred January 15th in Framwellgate. The premises were not satisfactory, the yard paving being defective and no doubt favouring pollution of subsoil. The owner was under statutory notice at the time and the work has since been satisfactorily carried out. The second case 6 days later was in the same house. The third and fourth cases, February 22nd and March 14th, were in satisfactory premises.

No further case occurred till 28th September, followed by the last case on 13th October. These cases occurred in Atherton Street and Allergate and in neither could any blame attach to the sanitary condition of the houses. 3 out of the 6 cases were removed to the Isolation Hospital, all recovering. The usual action was taken as to cleansing and disinfecting gulleys, W.C., &c.

SCARLET FEVER.—34 cases of this disease were notified during the year, as against 20 in the previous year. 29 cases were removed to the Isolation Hospital, a percentage of 85·2 somewhat higher than in 1908.

The cases occurred in the following localities :—

Crossgate	...	...	4
Lawson Street	...	...	1
Summerville	...	...	1
New Elvet	...	...	3
Framwellgate	...	...	3
Fowler's Terrace	...	...	1
Claypath	...	...	1
North Road	...	...	3
May Street	...	...	2
Mowbray Street	...	...	1
Leazes Place	..	...	1
Flass Street	...	...	2
Red Hills Terrace	...	...	2
Gilesgate	..	...	5
Sherburn Road	...	...	1
Elvet Waterside	...	...	2
Hallgarth Street	...	...	1

As in previous years little or no difficulty was experienced in persuading parents to have their children removed where the accommodation, as in the great majority of cases, was not such as to render home isolation really practicable. In a great number of instances indeed intimation was given along with the notification of the desire to have the patient removed.

This course naturally expedites removal and so is advantageous in lessening the likelihood of other members of the family becoming infected.

Disinfection of all houses after infectious diseases has been carried out as in previous years on the removal or recovery of patients.

ISOLATION HOSPITAL—During the year 36 patients have been admitted into the Isolation Hospital, 29 being cases of Scarlet Fever, 4 of Diphtheria, and 3 of Enteric Fever, all making a good recovery.

There were remaining in Hospital December 31st 1909, 7 patients, viz., Scarlet Fever 5, Diphtheria 2.

The Hospital was closed 3 weeks and 1 day from December 21st., 1908, to January 12th., 1909; and 9 weeks 3 days from July 19th to September 23rd.

No return case has occurred during the year and it is in fact many years since any such case has been noted. As I have previously remarked, I believe this to be an unusual experience in Isolation Hospitals, and is entirely due to the extreme care exercised in fixing the time and preparing the patient for discharge.

The present efficiency of the Hospital is chiefly due to the action of the Council some years ago in appointing a permanent nurse in charge; and during the years that Nurse Griffith has occupied that post I have had the pleasure of testifying to the very satisfactory manner in which she has carried out her duties.

Nursing of this character is necessarily at times of a monotonous character and requiring marked care and devotion, and I do not hesitate to say that it is mainly owing to the qualities of Nurse Griffith that the Hospital has attained its present popularity.

SANITARY INSPECTION.—During the year systematic house to house inspections have been carried out in a considerable part of the town, particularly in those districts where insanitary conditions are known to most frequently occur. These include parts of Claypath and Gilesgate and the neighbouring side streets, the whole of Millburngate, Framwellgate and Sidegate, and a part of New Elvet and Church Street.

These inspections have been made in conjunction with the Sanitary Inspector, as has also a very large amount of ordinary inspection work where insanitary

conditions were suspected or where, the informal notices not having been attended to, application for statutory notices was about to be made.

A full summary of insanitary conditions dealt with compiled by the Sanitary Inspector and showing whether informal or statutory notices have been required, will be found on page 30 and I will here review some of the more important points in connection with these conditions.

The chief structural defects found in dwelling houses consist of defective walls and roofs, defective spouting and downcomers, dilapidated staircases, doors and windows, the latter in many instances not opening, and dilapidated ceilings. In all 296 conditions of this kind were remedied after notice. 105 ashpits and privies have been dealt with, 16 of these being replaced by waterclosets. A very great number of old insanitary ashpits have during recent years been replaced by waterclosets, and whereas ten years ago ashpit privies largely predominated over other conveniences, the water carriage system is now in a great majority. The actual number of privies at present in use is 725, whilst waterclosets number 1374.

Besides waterclosets the only convenience now allowed is the small sanitary ashcloset.

In 32 instances house drains have been disconnected from the sewers. Much more requires to be done in this direction, all the more urgently as the new sewerage system is now practically completed.

As regards yard paving also, the town is in a very different condition to that existing a few years ago. Year by year a great deal of work has been done in this respect and the great majority of yards are now properly cemented and drained. The effect of this in preventing

pollution of subsoil and lessening dampness in dwellings must be very great. During last year notices were served in 80 cases where the paving, being of flags or bricks, was defective and in 72 of these the work has been satisfactorily completed.

COMMON LODGING HOUSES.—There are 9 common Lodging Houses in the City, and these are under continual supervision by the Inspector and visited by myself at least twice in the year. Four notices have had to be served during the year for the following defects which have been remedied :—

Foul Watercloset...	...	...	1
Dilapidations	...	...	1
Dirty rooms, floors, &c.	...	..	2

No case of infectious disease has occurred on any of these premises during the year.

COWSHEDS.—There are 10 Cowsheds in the district, viz :—1 in Crossgate, 3 in Framwellgate and Sidegate, 3 in Gilesgate and 3 in Hallgarth Street.

As a rule these are kept in a satisfactory condition, and comply with the bye-laws as to air space, lighting, ventilation and drainage.

Two notices have been served on account of dirty floors and walls, these being conditions which require continual attention.

I may here state that the Council has had under consideration the question of providing for the periodical examination of dairy cows by a Veterinary Inspector with special reference to the detection of tuberculous animals. The subject has been referred to the Health Committee to be further enquired into.

SLAUGHTER HOUSES.—There are 14 Slaughter houses in the City which now in most respects comply

with the regulations of the bye-laws. The chief difficulty with regard to these premises is in enforcing the necessary cleansing of floors and walls immediately after slaughtering. This matter requires constant attention on the part of the Inspector and in 9 instances notices had to be served during the year. In one case the Notice of Byelaws was not exhibited as required. These premises are frequently visited by the Inspector during slaughtering and in one instance a part of tuberculous carcase was seized and destroyed.

HOUSING OF THE WORKING CLASSES.—7 notices have been served during the year under the provisions of the Housing of the Working Classes Act 1890. In 5 cases dwellings were made habitable after formal notice, and in 2 closing orders were applied for and granted by the magistrates, one house being permanently closed and one closed until the necessary works should be carried out. So far nothing has been done in this case and I think that most probably the house will remain permanently closed.

It would be a great convenience were it possible to frame an exact definition as to what constitutes an uninhabitable house. At present considerable difference of opinion exists on the point among experts and the Medical Officer must rely on his own opinion as to when a dwelling is in a state so dangerous or injurious to health as to be unfit for human habitation. During the past two years 35 houses have been dealt with under the Act, the insanitary conditions being chiefly general dilapidations and dampness of walls or floors. But there are many old houses in the town so placed as to render it impossible to have the free space around them that is desirable.

There is great room for further work in this direction and several houses are at present being scheduled for Report under the Act.

NEW MAIN SEWERAGE.—I am indebted to the City Engineer and Surveyor, Mr. J. T. Pegge, P.A.S.I., M. San. Inst., for the following resumè of the work done during the year, and as the scheme is now nearing completion, the account given with his aid in successive Annual Reports forms a succinct history of this very extensive and costly undertaking.

House connections to new sewers, by cast iron pipes on concrete pillars to new steel sewers where above ground level and by salt glazed pipes and collar junctions where necessary, all sewer and house connections are now made except 4 or 5 west of Silver Street to complete, so that practically the whole of the sewage now goes to the works.

NEW SEWERS.—During the year a length of cast iron main sewer on concrete piers has been laid at Freeman's Place and a short salt glazed sewer laid in Henderson's field west of Claypath to the tunnel manhole. These provide nearly a complete system of intercepting sewers, the exceptions being a short sewer in Station Lane and a new sewer for the North Road.

SEWAGE TREATMENT WORKS.—These are laid out ready for use, but the general ornamental planting (for which a tender is accepted) has yet to be done and the roads and paths consolidated.

COTTAGE AND PUMPING STATION (New portion).—The cottage is ready for occupation and the underground Engine-house is complete, the walls being of glazed brick, roof of ferro-concrete, and floor of granite-faced concrete. Two specially built engines and pumps with chain drives are installed and will be ready for pumping about February. These pumps discharge into the existing deliveries from the 8in. pumps and have separate suctions. The suctions of the old pumps have also been

separated. The sewage will be delivered along a pipe up to a valve chamber at the foot of the concrete steps leading to the Detritus and Hydrolitic tanks. In this chamber a breeching piece enables the sewage to be delivered through trumpet mouths into conical detritus tanks, either the east tank or the west at pleasure. From these tanks the solids and grit can be run off into the sludge area without stopping pumping. The sewage flows from the sludge and detritus tanks by means of channels into a storm overflow arranged to run off into the storm water filler over three times the normal run of sewage and above that into the river. The sewage passing through this overflow into the Hydrolitic tank and thence through the Hydrolising bed will continue its course along a wrought steel tank on the mid-wall between the two clinker filter beds where it will be picked up by two travelling turbine distributors worked by the pressure of the distributed sewage on the air fitted with automatic reversing gear. After the sewage is thus distributed on the two filters or either of them at pleasure, the effluent will be collected at the north end of these tanks and then can be turned on to any part of the 22 acres of land set apart for treatment works. Passing on to the beds it filters through the land and is carried by means of underdrains at certain points into the river. The Detritus tanks, storm water overflow and the Hydrolitic Chamber are ready for use. The storm water filter is ready for use except delivery troughs.

The 2 percolating filters are practically at a standstill for the want of clinker which cannot be obtained owing to the heavy snow and frost at Consett.

The travelling apparatus is ready for delivery at Messrs. Blakeboroughs and the steel trough is despatched to these works,

Subject to no serious unforeseen difficulty the whole of this great undertaking will be complete in 2 or 3 months' time.

VENTILATION OF SEWERS.—From time to time during the construction of the new main sewers and more particularly since the work of connecting with the existing sewers and house drains has been commenced, I have pointed out the dangers which must occur through there being no provision in the Scheme for effective and thorough ventilation of the sewers. During the year the matter has received the serious attention of the Council, and a joint Report on the subject has been prepared by the Consulting Engineers, Messrs. Taylor, Wallin and Taylor, and the City Surveyor, Part I. dealing with the east and south half of the City being issued in August, and Part II. dealing with the west half of the City in October.

These reports showed that in many districts complaints had been made of smells attributable to the sewers and that occasionally traps were forced.

A complete system of ventilation was proposed consisting chiefly of vent shafts where these could be fixed in suitable position, and of 4 or 6 in. Webb lamps, either by the conversion of existing lamps or the erection of new ones where necessary.

These reports have been thoroughly investigated by the Council, and subject to a few alterations the proposals have now been adopted, and I understand the work is to be proceeded with, the estimated cost of the whole work being £700.

WATER SUPPLY.—The public water supply of the City is derived from the mains of the Weardale and Consett Water Company whose gathering grounds are in the Upper Wear Valley district. The supply is continuous and of good quality, although usually tinged with peaty discolouration.

Like many upland waters it possesses a certain amount of Plumbo solvent action and in order to counter-act this tendency all the water which passes through the Company's Waskerly Reservoir from which the City of Durham is supplied is treated by the following method, for the account of which I am indebted to Mr. R Askwith M.I.C.E. the Resident Engineer :—

Each day $1\frac{1}{2}$ cwts of burnt ground lime is placed in a cistern into which water is run through the bottom under pressure and passes away over the top.

The lime becomes mixed with this water which is then passed forward into the filter beds along with the general supply of water which is sent forward to be filtered.

The whole of the lime does not at once dissolve but some parts of it remain in the filter beds for a day or two but eventually becomes dissolved and thus the whole quantity of lime, viz., $1\frac{1}{2}$ cwts. per day is taken up by about 2 million gallons of water.

The water is analysed twice each year by Sir Thomas Oliver of Newcastle and has now for some years proved satisfactory from a plumbo-solvency point of view.

EDUCATION (ADMINISTRATIVE PROVISIONS) ACT, 1907.—The work of medical inspection of children under this Act has been continued during the year, and as I have already presented my Annual Report on this subject to the Education Committee, it need not here be further referred to.

REGULATIONS WITH REFERENCE TO PULMONARY TUBERCULOSIS.—9 cases of Pulmonary Tuberculosis have been notified in accordance with these regulations during the year and the necessary steps taken to disinfect the premises concerned on the death or removal of the patient.

FACTORIES AND WORKSHOPS ACT.—There are now 186 registered Workshops in the City including 10 Bakehouses. These have been under constant supervision by the Sanitary Inspector, 425 inspections having been made and 69 written notices issued ; 7 of these were in reference to sanitary accomodation and all cases have been remedied. The remaining notices were chiefly in reference to defective ventilation or uncleanness, but the defects were mostly of a minor character and were remedied subsequently.

The only outworkers in the City are in connection with boot and shoe repairing and number 4 as against 9 in the previous year.

FOOD AND DRUGS.—During the year the following samples were taken by the Inspector, Mr. H. M. Kerslake under the Food and Drugs Acts :—Butter 5, ice-cream 2, milk 11, sweets 4, whiskey 2, and one each of arrow-root, baking powder, beer, brandy, coffee, cream, ground rice, lard, oatmeal, pepper and rum. Total, 35 samples. Thirty-three of these samples were reported as being genuine, but the other two were not up to the standard required by law. The offences, however, were not of a serious nature, and the committee decided that cautions would meet the cases.

RECENT LEGISLATION.—Public Health Amendment Act, 1907.—After further consideration the Council has resolved to adopt this Act with the exception of Sections 48, 76, 77, 82, 83 and 85, and appeal has been made to the Local Government Board for the necessary permission.

HOUSING, TOWN PLANNING, &c. ACT, 1909.—This Act which has now received the Royal Assent consists of two parts : I. dealing with the Housing of the Working Classes and II. with Town Planning.

It contains many very important provisions which will require the earnest consideration of the Council, and I will here very briefly refer to some of those which most closely concern us.

Section I provides that Part III of the Housing of the Working Classes Act, 1890, shall extend to and take effect in every Urban and Rural district, or other place for which it has not been adopted, as if it had been so adopted Sections II to IX deal with the methods of purchase of land compulsorily for the purposes of Part III of the principal Act.

Sects. X to XIII deal with the powers of enforcing Execution of Housing Acts.

Section XIV and XV enact very important provisions as to keeping houses let at a rent not exceeding £16 (in this town) in repair.

Sects. XVII to XXI deal with the Amendment of procedure for closing orders and Demolition Orders, one important alteration being that the power of issuing order prohibiting the use of a dwelling-house for human habitation is now vested in the Local Authority on the representation of the Medical Officer of Health or other information.

Sections 22 to 29 deal with Amendments with respect to Improvement and Reconstruction Schemes.

The remaining portion of Part I. deals with Amendments with respect to financial matters, general amendments and definitions, &c.

Parts II. to IV. deal respectively with Town Planning, County Public Health matters and supplemental matters.

It will be seen that Part I. at least very nearly concerns us, and I would suggest that it receive very early and thorough consideration by the Health Committee.

The usual Tables 1 to 5 as required by the Local Government Board are appended to this Report ; also summaries of work done by the Sanitary Inspector.

I beg to tender my sincere thanks to the Chairman and Members of the Health Committee, and to the Council generally for the help and consideration I have received at their hands during the year, and to acknowledge my great indebtedness to the various Corporation Officials, particularly the Sanitary Inspector, Mr. Blythe, who, as in past years, has been most indefatigable in his work in improving the sanitary conditions of the City.

I have the honour to be,

Mr. Mayor and Gentlemen,

Your obedient Servant,

A. M. VANN,

Medical Officer of Health.

Durham, 16th February, 1910.

TABLE I.

Vital Statistics of Whole District during 1909 and previous Years

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total Deaths in Public Institutions in the District.	Deaths of Non- residents registered in Public Institutions in the District.	Deaths of residents registered in Public Institutions beyond the District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.		
		Number.	Rate.*	Under 1 Year of Age	At all Ages.		Number.				Rate.*		
					Number.	Rate per 1,000 births registered.							
												3	4	5	6	7	8	9	10	11	12	13
1899..	14,761	398	26.9	61	153.2	327	22.1	76	55	5	277	18.7	
1900..	14,700	354	24.0	75	211.8	380	25.8	78	50	5	335	22.7	
1901..	14,659	443	30.0	80	180.5	389	26.5	98	63	2	328	22.3	
1902..	14,700	391	26.5	60	153.4	295	20.1	88	56	8	248	16.8	
1903..	14,785	443	29.9	69	155.7	322	21.7	92	52	3	273	18.4	
1904..	14,875	444	29.8	69	155.4	334	22.4	108	74	4	264	17.7	
1905..	14,900	405	27.1	78	192.5	370	24.8	98	61	2	311	20.8	
1906..	17,000	500	29.4	77	154.0	333	19.5	97	66	6	273	16.0	
1907..	17,200	444	25.8	61	137.3	359	20.8	103	68	5	296	17.2	
1908..	17,200	449	26.1	79	175.9	371	21.5	100	68	3	306	17.7	
Averages for years 1899 to 1908 }	15,478.0	427.1	27.5	70.9	166.9	348.1	22.5	93.8	61.3	4.3	291.1	18.8	
1909..	17,200	434	25.2	59	135.9	355	20.8	109	73	4	286	16.6	

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

Area of District in acres (exclusive of area covered by water) ..1,065.

Total population at all ages	16,992	At Census of 1901.
Number of inhabited houses	3,176	
Average number of persons per house..	5.3	

TABLE II.

Vital Statistics of separate Localities in 1909 and previous years.

Names of Localities.			ST. NICHOLAS' SUB-DISTRICT.				ST. OSWALD'S SUB-DISTRICT.			
YEAR.			Population estimated to middle of each year.	Births Registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births Registered.	Deaths at all Ages.	Deaths under 1 year.
			<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>	<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>
1899	..	..	..	131	79	14	..	267	172	45
1900	..	..	..	115	100	15	..	239	235	60
1901	..	..	..	159	96	25	..	284	232	55
1902	..	..	..	136	76	11	..	255	172	49
1903	..	..	..	154	86	18	..	289	187	51
1904	..	..	..	160	97	19	..	284	167	50
1905	..	..	..	131	119	27	..	274	192	51
1906	..	..	..	150	70	21	..	350	203	56
1907	..	..	..	133	98	21	..	311	198	40
1908	..	..	Total 17200	134	94	23	..	315	212	56
Averages of years 1899 to 1908. }			..	140.3	91.5	19.4	..	286.8	197.0	51.3
1909	..	..	Total 17200	115	85	11	..	319	201	48

TABLE III.

Cases of Infectious Disease notified during the Year 1909.

NOTIFIABLE DISEASE	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY.		No. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.		
	At all Ages.	At Ages—Years.					St. Nicholas' Sub-District.	St. Oswald's Sub-District.	St. Nicholas' Sub-District.	St. Oswald's Sub-District.	Total cases removed to hospital.
		Under 1 year.	At Ages—Years.								
			1 to 5	5 to 15	15 to 25	25 to 65						65 and upwards
Diphtheria (including Membranous Croup) ..	13	..	2	10	1	..	6	7	1	3	4
Erysipelas ..	13	..	..	..	..	3	5	8	..	..	..
Scarlet Fever ..	34	..	7	26	1	..	9	25	8	21	29
Enteric Fever ..	6	..	..	2	..	..	2	4	1	2	3
TOTALS ..	66	..	9	38	2	14	22	44	10	26	36

Isolation Hospital—Sunderland Road, Gilesgate Moor.
Total available beds—24.
Number of diseases that can be concurrently treated—2.

TABLE IV.
Causes of, and ages at, Death during Year 1909.

CAUSES OF DEATH.	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.							Deaths at all ages of "Residents" belonging to Local- ities whether occur- ing in or beyond the District,		Total Deaths whether of "Resi- dents" or "Non-Residents" in Public Institutions in the District.
	All ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	St. Nicholas' Sub-District.	St. Oswald's Sub-District.	
Measles	3	1	2	..	..	..	..	2	1	..
Diphtheria (including Membranous Croup)	..	..	..	..	..	..	..	..	..	1
Diarrhœa	2	1	..	..	..	1	..	..	2	..
Enteritis	5	3	1	..	..	..	1	..	5	1
Gastritis	6	4	2	..	..	..	..	2	4	..
Erysipelas	1	1	..	..	..	..	..	..	1	..
Phthisis (Pulmonary Tuberculosis) ..	18	1	..	1	1	15	..	5	13	3
Other tuberculous diseases	23	7	8	2	1	5	..	4	19	5
Cancer malignant disease	14	..	..	..	..	8	6	5	9	5
Bronchitis	24	9	2	..	..	4	9	9	15	5
Pneumonia	19	6	3	1	..	7	2	8	11	4
Pleurisy	1	..	..	..	..	..	1	1	..	1
Other diseases of respir- atory organs ..	3	1	..	1	..	..	1	2	1	2
Alcoholism	2	..	..	..	..	2	..	1	1	..
Premature birth ..	9	9	..	..	..	..	..	2	7	..
Heart diseases ..	32	..	1	..	2	19	10	11	21	6
Accidents	9	1	3	..	1	2	2	2	7	19
Suicides	4	..	..	..	..	4	..	..	4	1
Judicial Execution ..	..	..	..	..	..	..	..	..	..	2
All other causes ..	111	15	4	3	3	24	62	31	80	54
All causes ..	286	59	26	8	8	91	94	85	201	109

TABLE V. Infantile Mortality during the year 1909.
Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes—Common Infectious Diseases.	Uncertified	..	1	2	..	3	1	..	..	..	..	1	..	..	..	1	..	6
	Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Diarrhoeal Diseases.	Diarrhoea, all forms	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
	Enteritis, Muco-enteritis, Gastro-enteritis	..	..	1	..	1	..	..	1	..	..	..	1	..	..	..	..	3
	Gastritis, Gastro-intestinal Catarrh	..	..	..	1	1	1	..	..	..	..	2	..	..	1	..	..	5
Wasting Disease.	Premature Birth	..	1	1	..	7	2	..	..	..	..	..	..	..	..	..	..	9
	Congenital Defects	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
	Atrophy, Debility, Marasmus	..	..	..	..	..	1	1	..	1	..	..	1	..	..	..	..	4
Tuberculous Diseases.	Tuberculous Meningitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
	Tuberculous Peritonitis :	..	..	..	..	..	..	..	..	..	..	2	2	1	..	..	1	6
	Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Other Causes.	Other Tuberculous Diseases	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
	Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Syphilis	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Other Causes.	Rickets	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
	Convulsions	..	1	1	..	2	..	1	1	..	1	2	..	..	..	1	..	8
	Bronchitis	..	1	1	..	2	3	..	1	..	..	..	..	..	..	..	..	1
Other Causes.	Laryngitis	..	..	..	1	1	..	..	..	1	..	..	..	2	..	1	1	6
	Pneumonia	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	3
	Other Causes	..	..	1	..	1	..	..	..	..	..	1	..	1	..	..	..	3
		5	4	5	2	16	8	2	3	2	3	9	4	4	2	2	4	59

Summary of Work done in the Inspector of Nuisances' Department during the year 1909.

I. PUBLIC HEALTH ACTS.			Number of Informal written Notices by Inspector.	Number of Formal Notices by order of Authority.	Number of Nuisances abated after Notice.
Dwellinghouses and Schools.	Foul Conditions	..	74	..	74
	Structural Defects	..	330	24	296
	Overcrowding	..	10	..	10
Lodging-houses	..	..	4	..	4
Dairies and Milkshops	..	..	..	..	..
Cowsheds	..	..	2	..	2
Bakehouses	..	..	3	..	3
Slaughter-houses	..	..	9	..	9
*Ashpits and Privies	..	..	105	12	105
Deposits of Refuse and Manure	..	..	22	..	22
Waterclosets	..	..	154	12	154
Defective Yard Paving	..	..	80	18	72
House Drainage	Defective Traps	..	58	12	50
	No Disconnection from Sewers	..	32	3	32
	Other Faults	..	109	4	109
Water Supply	..	..	..	..	..
Pigsties	..	..	2	..	2
Animals Improperly Kept	..	..	9	..	9
Offensive Trades	..	..	..	..	..
Smoke Nuisances	..	..	..	..	..
Other Nuisance	..	..	557	15	502
TOTALS	..	..	1560	100	1455

*16 Ashpits and privies replaced by W.C's,

					Number
II. HOUSING OF THE WORKING CLASSES ACT, 1890.					
Formal Notices served	..	..	..	..	7
Dwellings dealt with	..	..	..	..	5
Dwellings made habitable after formal notice	..			..	5
Closing Orders applied for	..	..		..	2
Closing Orders granted by Magistrates			..	..	2
Dwellings permanently closed	..	..		..	1
III.					
Number of New Houses erected during the year	..			..	11
Number of such houses occupied during the year	..			..	11
IV. PRECAUTIONS AGAINST INFECTIOUS DISEASE.					
Houses disinfected after Infectious Disease	..			..	19
Schools	„	„	„	..	3

ROBERT BLYTHE,

Inspector of Nuisances.

January 5th, 1910.

Factories, Workshops and Workplaces.

I.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of.		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries)	37	3	} Nil.
Workshops (Including Workshop Laundries)	375	64	
Workplaces	13	Nil.	
TOTAL	425	67	

II.—DEFECTS FOUND.

Particulars.	Number of Defects.	
	Found.	Remedied.
Other nuisances	62	62
Sanitary accommodation {	Insufficient ..	2
	Unsuitable or defective ..	3
	Not separate for sexes ..	2
TOTAL	69	69

III.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.					Number.
Workshops	..	..	..	..	176
Bakehouses	..	..	..	..	10
Total Number of Workshops on Register					186

A. M. VANN,

Medical Officer of Health.

13th February, 1910.

